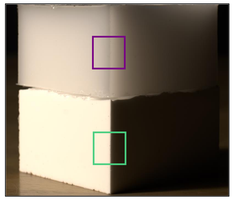
On the Appearance of Translucent Edges

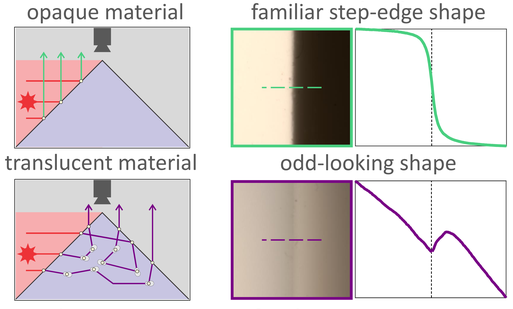
Ioannis Gkioulekas (Harvard), Bruce Walter (Cornell), Edward Adelson (MIT), Kavita Bala (Cornell), Todd Zickler (Harvard)

We examine side-lit, geometric edges…



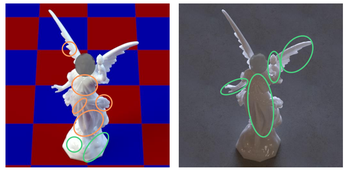
…of translucent materials…

…which look different from opaque ones…

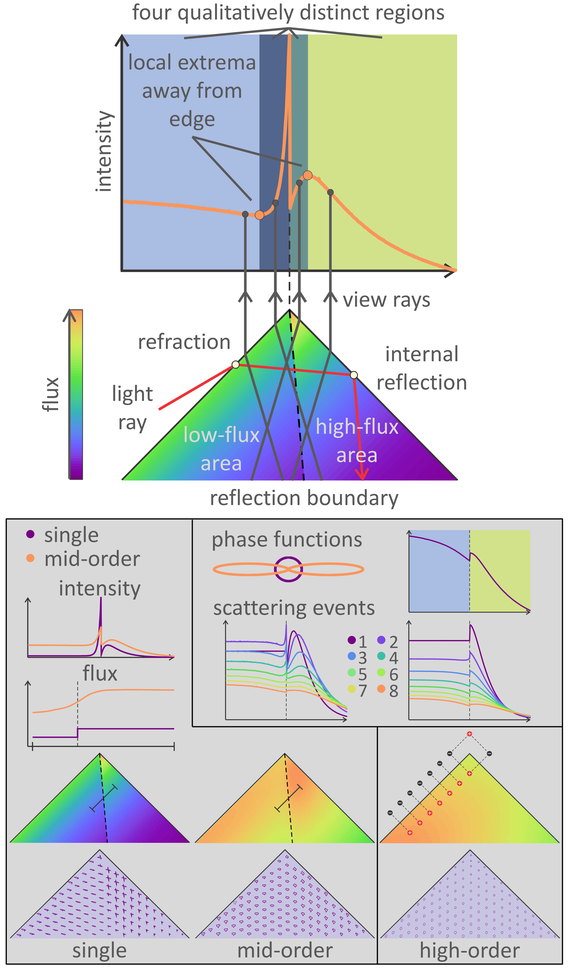


…and are important for human perception

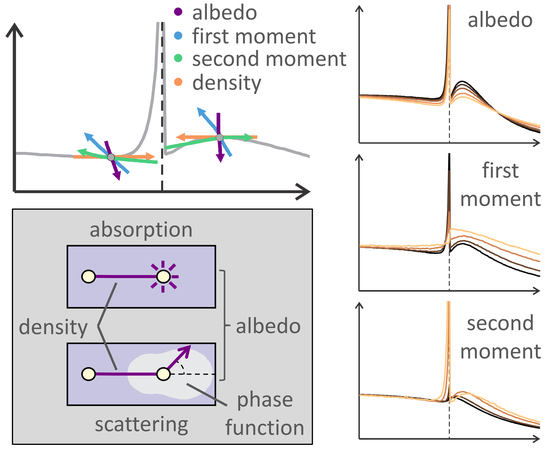
- fine geometric details
- other features



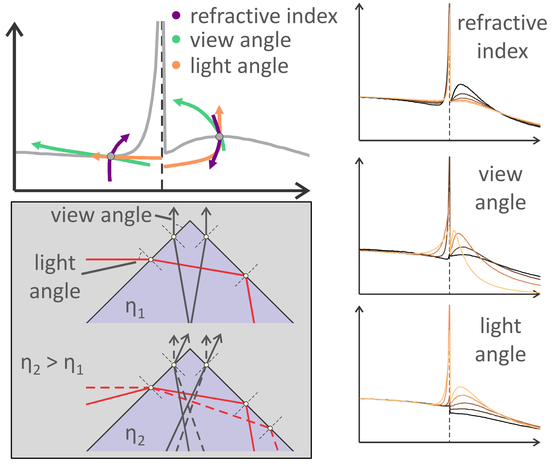
What do ideal translucent edges look like?



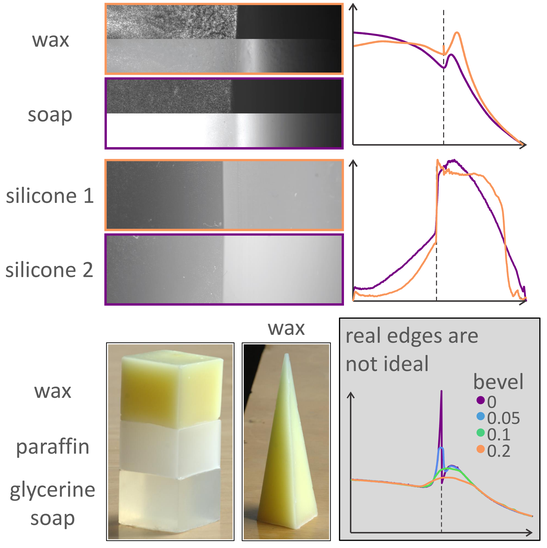
Different materials can look the same



Different geometries look different



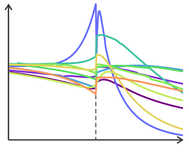
Real-world edges look (something) like this



Applications

- features for material recognition and inference
- image priors for translucent materials
- edge detection on translucent objects
- shape-from-shading for translucent objects

Dataset



45,000 rendered edge profiles for different materials and geometries

http://vision.seas.harvard.edu/translucentedges